

**REMARKS**

Claims 1-15 are currently pending in the application. Claims 1-15 have been amended. Applicant respectfully submits that the amendments made to the claims herein are neither being presented nor made for any reason related to any statutory requirements for patentability. These claim amendments are made solely to more completely claim that to which the Applicant is entitled. It is submitted that no new matter has been added.

Claims 4-7 and 11-15 stand objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. Applicant respectfully submits that claims 4-7 and 11-15 have been amended to overcome the Examiner's objections.

Claim 1-4 and 8-11 stand rejected under 35 U.S.C. 102(b) as being anticipated by E.H.S. Chilton et al. ("Chilton"). Chilton relates to a robust method for determination of pitch in voiced speech. Applicant respectfully submits that Chilton fails to teach or suggest at least one of the distinguishing features of independent claim 1, namely, estimating an average distance between the peaks and using the estimate of the average distance as an estimate of the pitch.

In Chilton, a spectral autocorrelation function measures a regular harmonic spacing, in a spectrum of a speech signal by applying the autocorrelation to a power spectral density. The preprocessing is critical for good performance and the speech spectrum is flattened by obtaining a residual from linear prediction analysis of the original speech. The Office Action appears to have

equated the correlation peaks at an average harmonic spacing in the spectrum in the shifted frequency domain with the feature of claim 1 of estimating an average distance between the peaks and using the estimate of the average distance as an estimate of the pitch. Chilton is not at all concerned with estimating an average distance between the peaks and using the estimate of the average distance as an estimate of the pitch. Applicant respectfully submits that claim 1 distinguishes over Chilton and is in condition for allowance. Withdrawal of the rejection of claim 1 as anticipated by Chilton is respectfully requested.

Dependent claims 2-4 depend from and further restrict independent claim 1 in a patentable sense. Applicant respectfully submits that, for at least the reasons set forth above with respect to the rejection of independent claim 1, dependent claims 2-4 distinguish over Chilton and are in condition for allowance. Withdrawal of the rejection of dependent claims 2-4 is respectfully requested.

Independent claim 8 is directed to a device adapted to estimate a pitch of a speech signal. Applicant respectfully submits that Chilton fails to teach or suggest at least one of the distinguishing features of independent claim 8, namely, means for estimating an average distance between the peaks and means for using the estimate of the average distance as an estimate of the pitch. In contrast to claim 8, there is no teaching or suggestion by Chilton of a means for estimating an average distance between the peaks and a means for using the estimate of the average distance as an estimate of the pitch. In Chilton, a spectral autocorrelation function measures a regular harmonic spacing in a spectrum of a speech signal by applying the

autocorrelation to a power spectral density. The preprocessing is critical for good performance and the speech spectrum is flattened by obtaining a residual from linear prediction analysis of the original speech. However, Chilton is not at all concerned with a means for estimating an average distance between the peaks and means for using the estimate of the average distance as an estimate of the pitch. Applicant respectfully submits that claim 8 distinguishes over Chilton and is in condition for allowance. Withdrawal of the rejection of claim 8 as anticipated by Chilton is respectfully requested.

Dependent claims 9-11 depend from and further restrict independent claim 8 in a patentable sense. Applicant respectfully submits that, for at least the reasons set forth above with respect to the rejection of independent claim 1, dependent claims 9-11 distinguish over Chilton and are in condition for allowance. Withdrawal of the rejection of dependent claims 9-11 is respectfully requested.

Claims 5-7 and 12-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chilton as applied to claim 1-4 and 8-11 above. Dependent claims 5-7 and 12-15 depend from and further restrict independent claims 1 and 8, respectively, in a patentable sense. Applicant respectfully submits that dependent claims 5-7 and 12-15 distinguish over Chilton and are in condition for allowance.

In addition, the Office Action concedes that Chilton fails to teach all of the features of claims 5-6 and 12-13. In particular, the Office Action concedes that Chilton does not teach "calculating differences between peak positions and average distance between peaks and picking

the spacing for the peak value having the maximum value of the conformity function if it has the smallest difference." Although the Office Action indicates that "an artisan at the time of invention would have known to do this, to calculate a standard deviation of peak spacing, to determine how meaningful a given 'average' value over a set of peaks is, and knowing that signal-to-noise ratio, which also indicates the reliability of peak spacing estimates, is related to peak amplitude."

Applicant respectfully submits that there is no teaching in Chilton that would suggest to a person of ordinary skill in the art to calculate for each peak in the conformity function the difference between the position of the peak and the estimate of the average distance and providing an improved estimate of the pitch by selecting as the improved estimate the position of the peak having the smallest value of the difference.

In an effort to overcome the deficiency of Chilton noted above, the Office Action has apparently attempted to rely on conclusions based on an assessment by the Examiner of what would be basic knowledge or common sense in the relevant art. Such reliance is improper in the absence of sufficient supporting evidence. Applicant respectfully submits that the Examiner must point to some concrete evidence in the record in support of the assertion by the Office Action quoted above. *See, e.g., In re Zurko*, 59 U.S.P.Q.2D 1693 (Fed. Cir. 2001). Applicant respectfully submits that this evidence has not been presented.

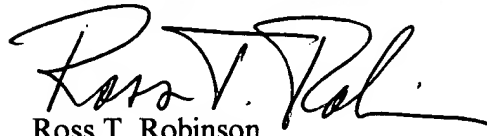
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In view of the above, it is believed that this application is in condition for allowance, and such a Notice is respectfully requested.

Respectfully submitted,

JENKENS & GILCHRIST,  
A Professional Corporation

A handwritten signature in black ink, appearing to read "Ross T. Robinson". The signature is stylized with a large, sweeping "R" and a long horizontal stroke at the end.

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